

DAIMLERCHRYSLER

DaimlerChrysler Corporation

Stephan J. Speth

Director

Vehicle Compliance & Safety Affairs

February 21, 2003

National Highway Traffic Safety Administration
Docket Management
Room PL-401
400 Seventh Street, S.W.
Washington, D.C. 20590

Re: Low Speed Vehicles:
Docket No. NHTSA 2002-12538
Supplemental Information

DaimlerChrysler's subsidiary, Global Electric Motorcars, LLC (GEM), is pleased to submit supplemental information relating to the referenced NPRM. This is the information that DaimlerChrysler representatives agreed to provide at a recent meeting in Washington, D.C. with NHTSA officials to discuss this rulemaking and the safety performance of GEM vehicles.

Historical sales of GEM vehicles by calendar year

1998 – 384 1999 – 1869 2000 – 3923 2001 – 1670 2002 – 6500

All accident data and analysis involving GEM vehicles

The following GEM safety incidents from the field have been reported or otherwise noted. It is important to note that none of these incidents are related to conspicuity, or the lack thereof, of GEM vehicles. Two of the incidents were due to mechanical issues with the GEM vehicle, two were caused by driver error and the most recent is still under investigation. Including 2003 MY production, the GEM fleet has accumulated approximately 31,000 vehicle-years of use. With only five incidents, the average incident occurs only once per 6,000 vehicle-years.

1. Panama City, FL (Aug, 2000): A father rented a vehicle at GEM of Panama City and then promptly turned operation of the vehicle over to his underage daughter after they were out of sight of the rental facility. She failed to yield at an intersection and ran into a half ton pickup. One of the four teens riding in

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the vehicle may have suffered a broken foot. Driver error was the cause of the accident.

2. Celebration, FL (Aug, 2001): A man was driving a rented 4 passenger GEM on a private road within the Celebration master planned community. He was not wearing a seat belt. A Volvo coming the other way made an improper left turn in front of the GEM and they collided, center front of GEM to left front corner of Volvo. The GEM driver was ejected and hit his head on the Volvo's left front. He suffered cuts and bruises. The Volvo driver was ticketed for an improper left turn and the GEM driver was ticketed for not wearing a seat belt.
3. Newhall, CA (May, 2002): The steering rack seized and as a result the GEM vehicle scraped a parked car. The driver of the GEM hit his chest on the steering wheel, but there was no injury reported. This issue has been addressed by a campaign in which GEM recalled 9000 vehicles for steering rack inspection/repair. This is GEM's only product recall to date.
4. Sugar Hill, GA (July, 2002): An owner's son was driving during dry, daylight conditions. The steering knuckle on the right front side broke and the GEM rolled onto its side. A fifteen-year-old female passenger suffered road burns/scrapes on her arm and leg as well as a minor fracture to one finger.
5. El Centro NAS, CA (Jan, 2003): Two airmen were driving a 2 passenger GEM from one building to another on the Naval Base. They made a sharp left hand turn at 18 mph and the vehicle rolled over onto its right side. The passenger sustained a broken thumb and minor road scrapes. The cause of this accident is under investigation.

Warning Labels

GEM has been voluntarily placing warning labels on all vehicles ever built. These labels include language that caution drivers regarding the roads and roadway conditions in which the vehicles should be driven. Specifically, the labels warn drivers not to operate the vehicle on any roadway with a posted speed limit of more than 35 miles per hour and to avoid operation on congested roadways or where the top speed of the GEM may impede the flow of traffic.

Copies of all current warning and other labels on GEM vehicles are provided in Enclosure 1.

2000 Consumer Usage Presentation

A copy of the October, 2000 "Consumer Research" presentation that was shown at the meeting with NHTSA in Washington, D.C. is provided in Enclosure 2.

The overall conclusion one draws from this research is that the on-road exposure of GEM vehicles is significantly less than for typical motor vehicles. In particular, the survey showed that the average on-road use per week was less than 19 miles, with an average trip of less than 4 miles. Therefore, the average GEM accumulates less than 1000 miles on-road use per year. With standard motor vehicles averaging approximately 12,000 miles per year, the typical GEM vehicle has only about one-twelfth the exposure of a typical motor vehicle. In addition, the exposure, by definition, is on low-speed roadways, reducing the chances of serious crashes and/or allowing more reaction time to prevent a collision in the first place.

Safety features incorporated on GEM vehicles

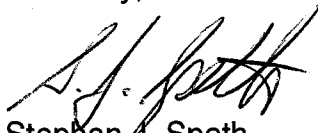
All new GEM vehicles come equipped with the following standard safety features:

- 4 wheel hydraulic drum brakes (exceeds FMVSS 500)
- Mechanically actuated emergency brakes on the rear wheels
- Safety glass windshield
- Windshield wipers (exceeds FMVSS 500)
- Horn (exceeds FMVSS 500)
- DOT approved backup alarm (exceeds FMVSS 500)
- 3 point seat belts in all seating positions (exceeds FMVSS 500)
- Stop lamps, tail lights / turning indicator / running lights , backup light
- Automobile Mechanical/Electrical Certification Association (AMECA) certified headlamps
- Anti-runaway system to prevent vehicle from rolling faster than 1 mph when the key is left on (exceeds FMVSS 500)
- Audible warning if the emergency brake is not engaged when the vehicle is turned off (exceeds FMVSS 500)
- Vehicle will not operate when battery charger is plugged in (exceeds FMVSS 500)
- Electrical disconnect enable power isolation for service and storage (exceeds FMVSS 500)
- Thermally-protected motor standard on all models (exceeds FMVSS 500)
- Current limiting feature to prevent overcharging & over discharging of batteries (exceeds FMVSS 500)
- Clearly identified high power cables (exceeds FMVSS 500)
- Battery terminal covers to protect against inadvertent contact (exceeds FMVSS 500)
- Warning Labels (exceeds FMVSS 500)

DaimlerChrysler Corporation appreciates the opportunity to provide this information and welcomes the opportunity to discuss any aspect of GEM vehicles

or this notice of proposed rulemaking with any members of NHTSA's staff. If there are any questions, please contact Rick Kasper, President and COO of GEM, at (701) 446-0114.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. J. Speth', written over a horizontal line.

Stephan J. Speth
Director
Vehicle Compliance & Safety Affairs

cc. Steve Kratze
Claude Harris

ENCLOSURE 1



WARNING

- Read the Owner's Manual before operating this vehicle
- This is a two (2) passenger vehicle
- Operate vehicle by authorized person only and from driver's side only
- Do not start vehicle until all people are seated
- Stop vehicle before reversing direction (be aware of small children and objects)
- Always use the turf setting when on the golf course
- Avoid sharp turns on steep inclines and at high speeds (may cause tip over)
- This is an open vehicle, keep arms and legs inside vehicle at all times
- Shall not be operated at a speed of more than twenty five miles per hour (25 mph)
- Shall not be driven on a highway that has a posted speed limit of more than thirty five miles per hour (35 mph)
- Drive with safety and wear seat belts (failure to do so may cause severe injury or death)
- Reduce speed on wet and slippery surfaces and in turns
- Do not leave children unattended in vehicle
- Do not operate this vehicle while under the influence of alcohol, drugs or medication
- Set handbrake before leaving vehicle
- Remove key when leaving vehicle unattended
- Check your local law and regulations (city and state)

2 Passenger Warning Label – Next to Rearview Mirror



WARNING

- Read the Owners Manual before operating this vehicle
- This is a (4) passenger vehicle
- Operate vehicle by authorized person only and from driver's side only
- Do not start vehicle until all people are seated
- Stop vehicle before reversing direction (be aware of small children and objects)
- Always use the turf setting when on the golf course
- Avoid sharp turns on steep inclines and at high speeds (may cause tip over)
- This is an open vehicle, keep arms and legs inside vehicle at all times
- Shall not be operated at a speed of more than twenty five miles per hour (25 mph)
- Shall not be driven on a highway that has a posted speed limit of more than thirty five miles per hour (35 mph)
- Drive with safety and wear seat belts (failure to do so may cause severe injury or death)
- Reduce speed on wet and slippery surfaces and in turns
- Do not leave children unattended in vehicle
- Do not operate this vehicle while under the influence of alcohol, drugs or medication
- Set handbrake before leaving vehicle
- Remove key when leaving vehicle unattended
- Check your local law and regulations (city and state)

0350-00548

4 Passenger Warning Label – Next to Rearview Mirror

LOW SPEED VEHICLE DISCLOSURE

THE VEHICLE INVOLVED IN THIS TRANSACTION IS CLASSIFIED AS A LOW SPEED VEHICLE. THIS VEHICLE:

- has a maximum speed of greater than 20 miles per hour, but not greater than 25 miles per hour;
- shall not be operated on a public highway with a speed limit in excess of 35 miles per hour;
- may be a hazard on the roadways if it impedes traffic;
- may subject the driver to citations for impeding traffic; and
- may not be equipped with such safety features as bumpers, a padded dashboard, visors and a tamper-resistant odometer;

1010-00078

All New York Vehicles – Next to Rearview Mirror

DISCLOSURE TO LOW SPEED VEHICLE BUYER

This vehicle:

- **Has a maximum speed of 25 miles per hour.**
- **May be a hazard on the roadways if it impedes traffic.**
- **May subject the driver to citations for impeding traffic.**

0350-00733

All Vehicles – Next to Rearview Mirror



WARNING

PAVED RECREATIONAL PATH RESTRICTIONS

Vehicles must be driven in turf mode only and may not exceed 20mph.

All operators must have a current and valid drivers license.

Seat belts must be worn by all occupants at all times when the vehicle is moving.

All vehicles must be properly registered and insured.

The above rules will be strictly enforced and citations will be written to offenders. Citations will be issued to owners and/or operators and fines will range from \$250 for the first offense and up to \$1000 and revocation of path privileges for the third offense.

All other rules applicable to operation of a motor vehicle in the State of Georgia also apply.

State of Georgia Vehicles Only

**IMPORTANT! Please read the following information
This sticker is to be removed only by the customer.**

- ☐ Read and understand the owner's manual before operating vehicle.
- ☐ Never haul vehicle on an open trailer, while facing backwards.
- ☐ If hauling car on an open trailer, pull at speeds of 55 mph or less. Always pull the car facing forward.
- ☐ Store vehicle with the battery disconnect switch turned off.
- ☐ Battery disconnect switch must be turned on to charge vehicle.
- ☐ Check battery water level at least once a month.
- ☐ The cargo pack attachment system utilizes a dual stage latch. For a secure attachment, ensure that the pack has latched into both stages (listen for two "clicks").

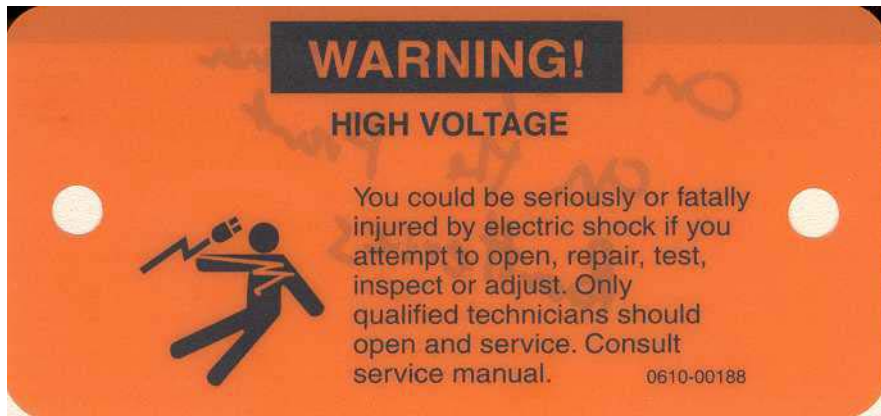


1-888-871-4367

Global Electric MotorCars, LLC

www.gemcar.com

All Vehicles – On Windshield (Dealer Applied)



All Vehicles – On Front Battery Splash Shield




All Vehicles – Lower Inside Dash Area (next to master disconnect)



All Vehicle with Optional Heater – Lower Dash Area

- **Load capacity 100 pounds.**
- **No Riders! This is not a seat.**


Utility Vehicles Only – On Swivel Pack

**WARNING**

- Maximum payload capacity of this vehicle is 330 lb.
- Distribute weight equally over axle.
- Do not exceed GVW of 1850 lb.
- Abuse of noncompliance will void warranty.

0360-0782

On Bed of 2 Passenger Short-back vehicle

**WARNING**

- Maximum payload capacity of this vehicle is 700 lb.
- Distribute weight equally over axle.
- Do not exceed GVW of 2300 lb.
- Abuse or noncompliance will void warranty.

0360-0781

On Bed of 2 Passenger Long-back vehicle

ENCLOSURE 2

Global Electric MotorCars

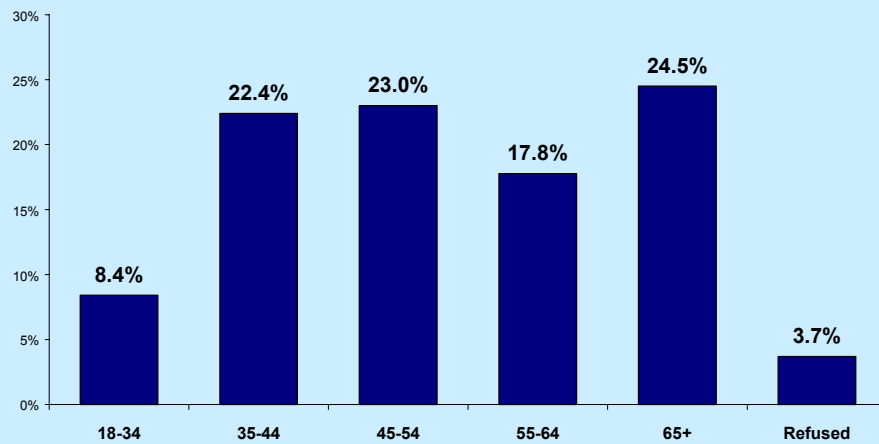


Consumer Research
October 2000

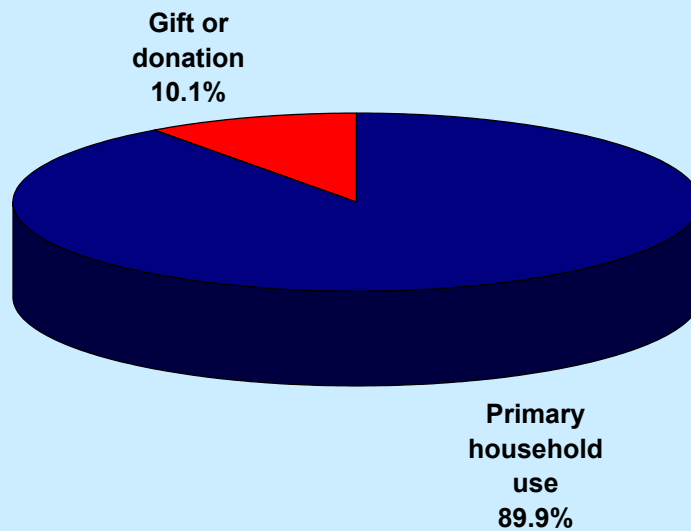
Location of Sample

	<i>Sample</i>	<i>Database Population</i>
<i>Count by Location</i>		
Arizona	288	1606
Outside Arizona	70	297
<i>Percent by Location</i>		
Arizona	80.9%	84.8%
Outside Location	19.1%	15.2%

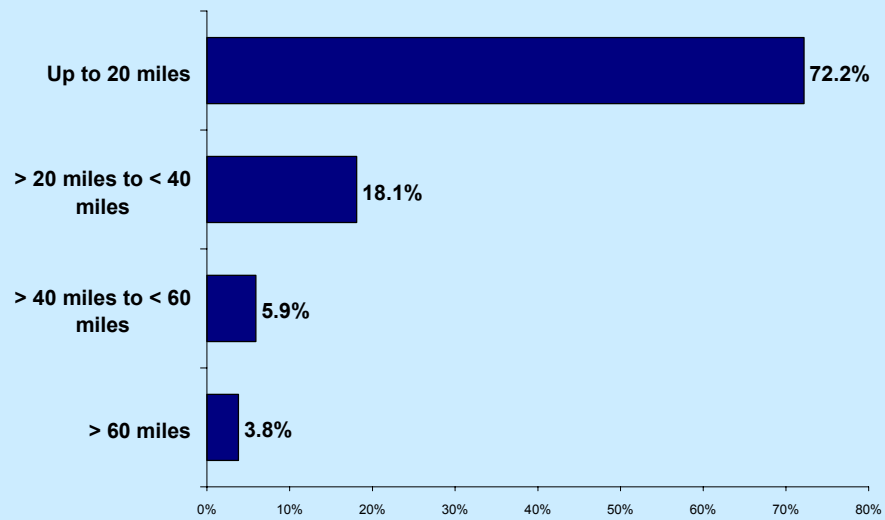
Demographics - Age of Sample



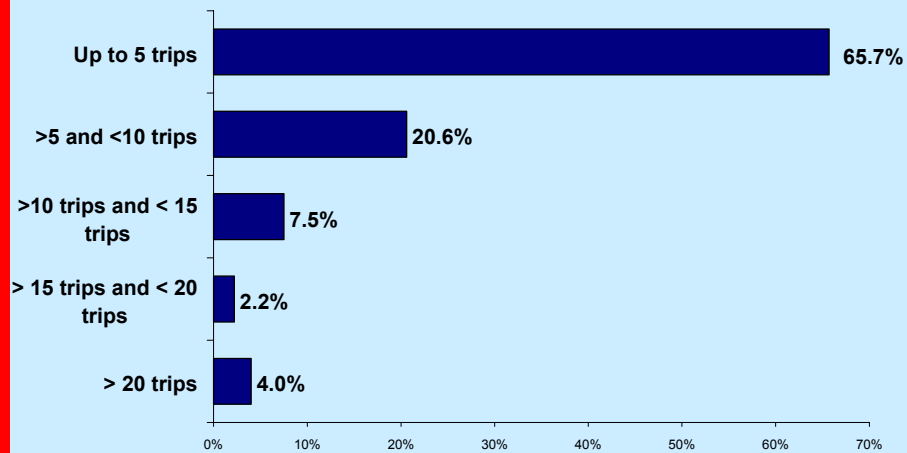
Do you use your GEM in your household or did you purchase it as a gift or donation?



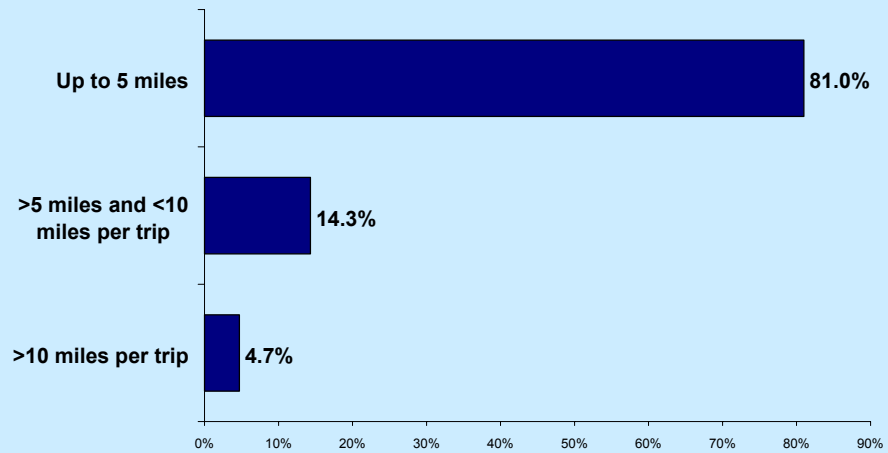
Average miles traveled per week



Average on-road trips per week



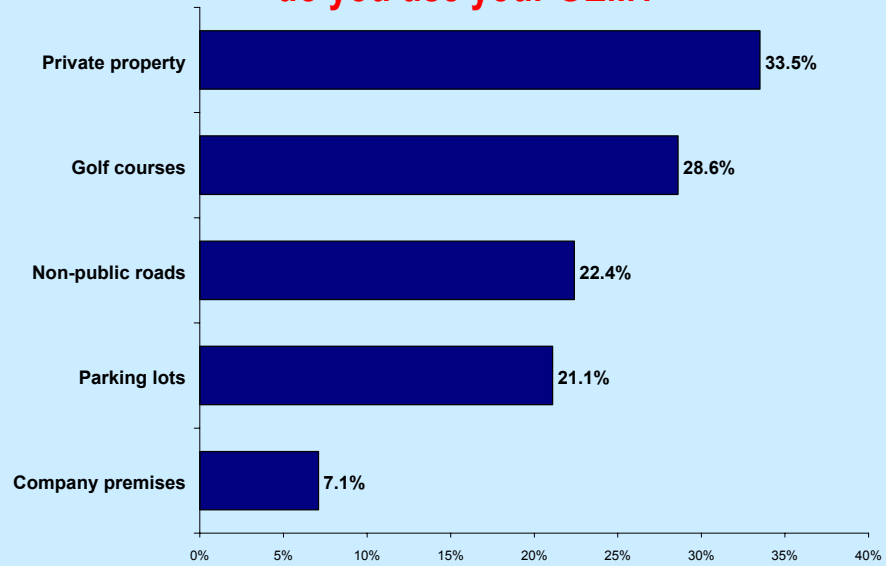
Average miles per trip



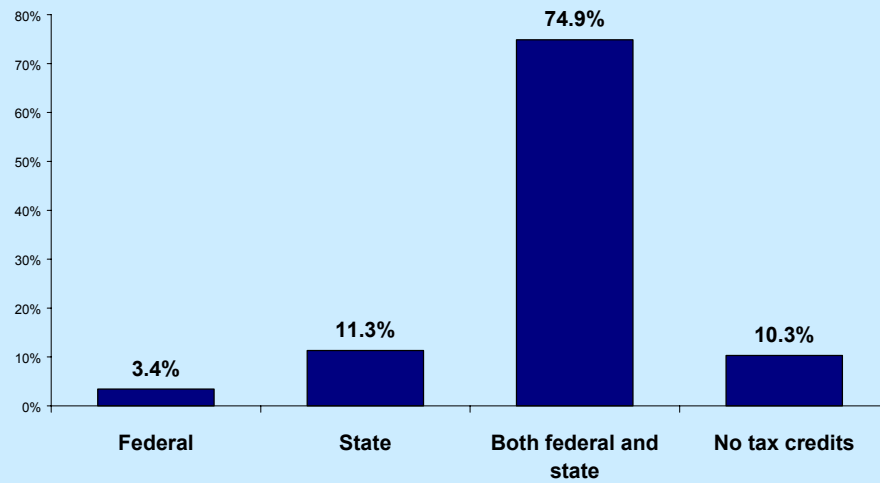
Summary Statistics

Average on-road miles per week	18.84
Average on-road trips per week	5.31
Average miles per trip	3.85

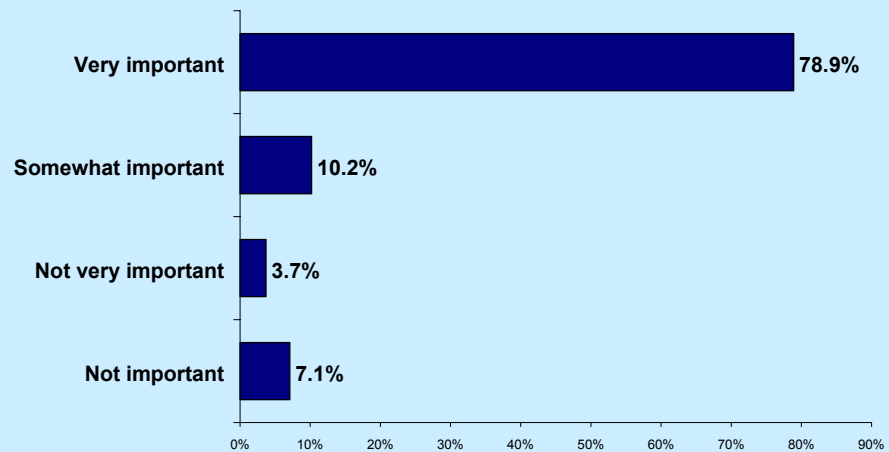
For what types of off-road travel do you use your GEM?



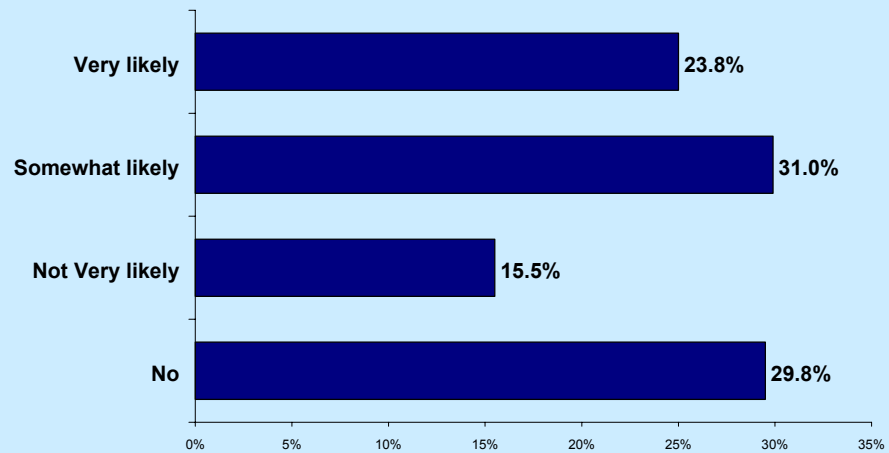
Did you take advantage of the tax credit?



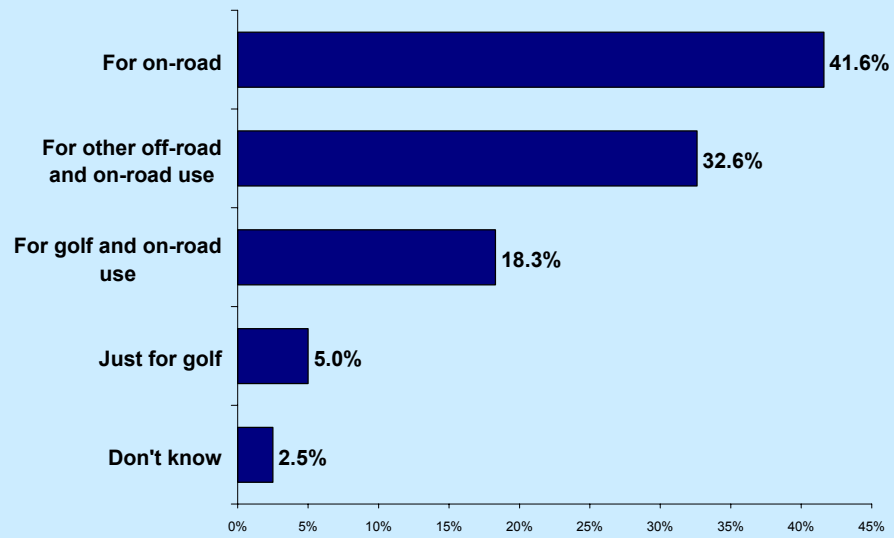
How important was the tax credit in your decision to purchase the GEM?



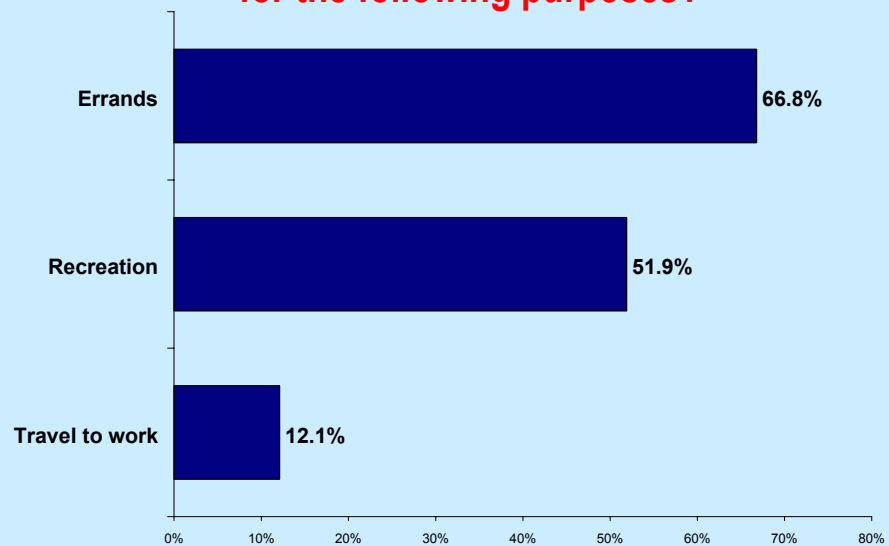
If the AZ tax credit were reduced from \$10K to \$5K would you still have purchased your GEM?



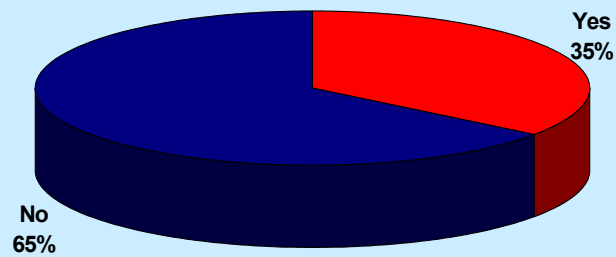
Intended use of GEM when purchased...



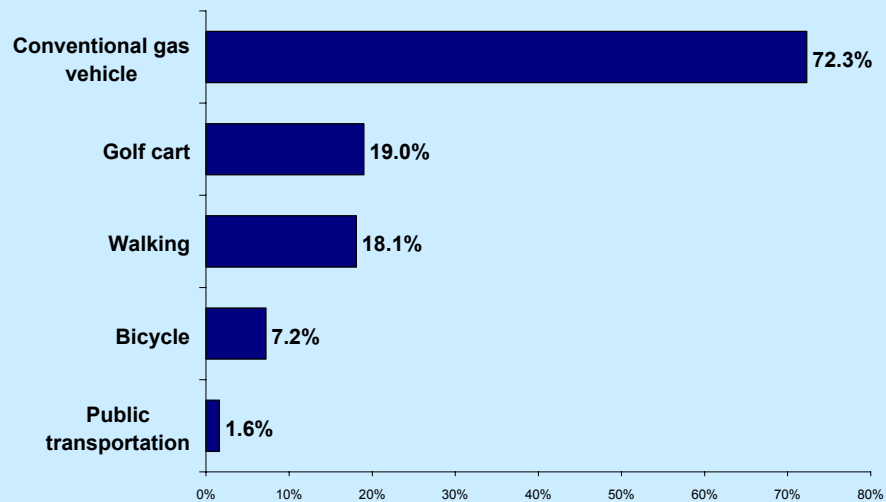
What percentage of travel in your GEM is used for the following purposes?



**Do you use your GEM to travel
to a golf course?**

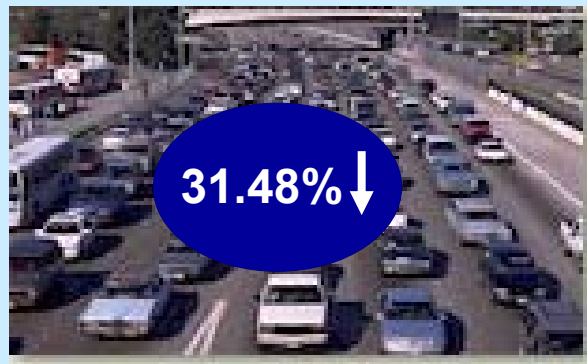


**Has driving your GEM decreased your use of
any of the following transportation?**

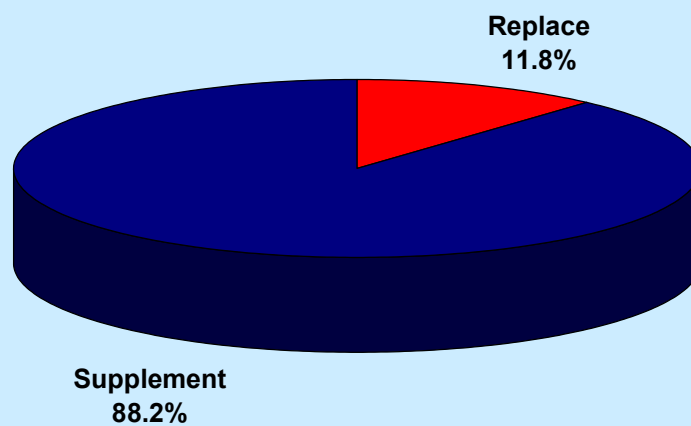


72.3% of GEM customers reduced their use of conventional gas vehicle.

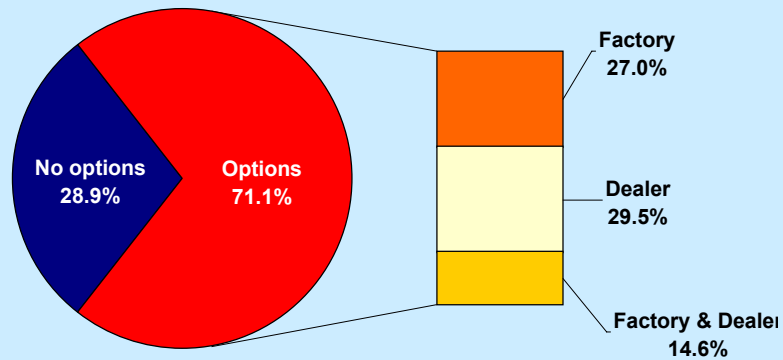
The average reduction in use is:



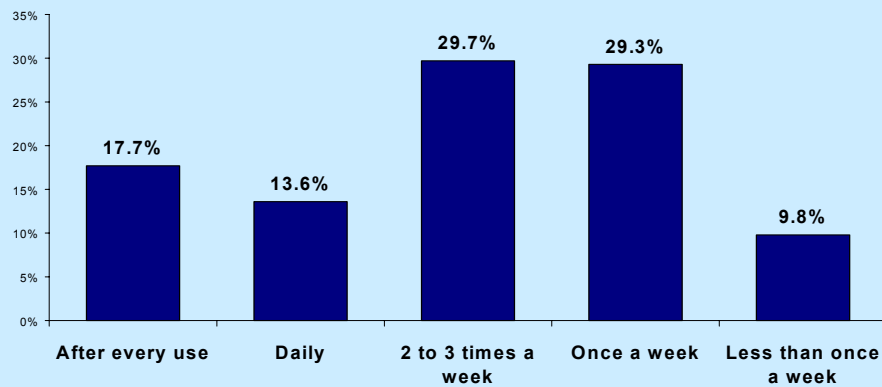
Did you purchase your GEM to replace or supplement a conventional gas vehicle?



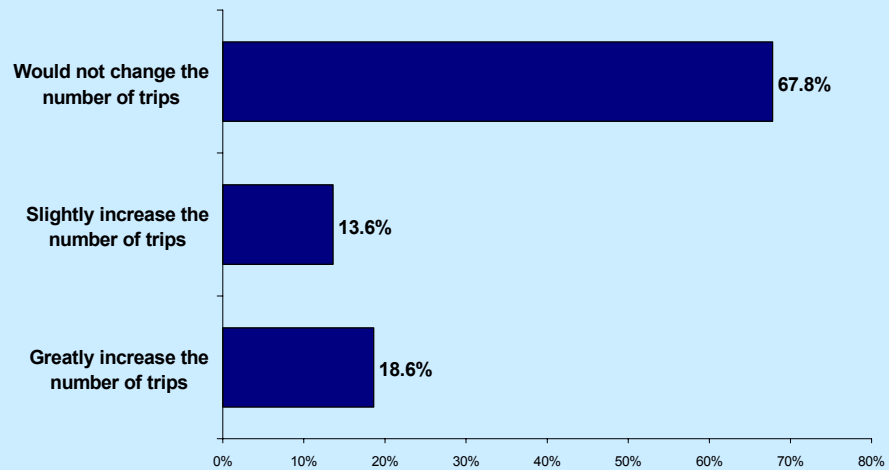
Did you purchase any options with your GEM?



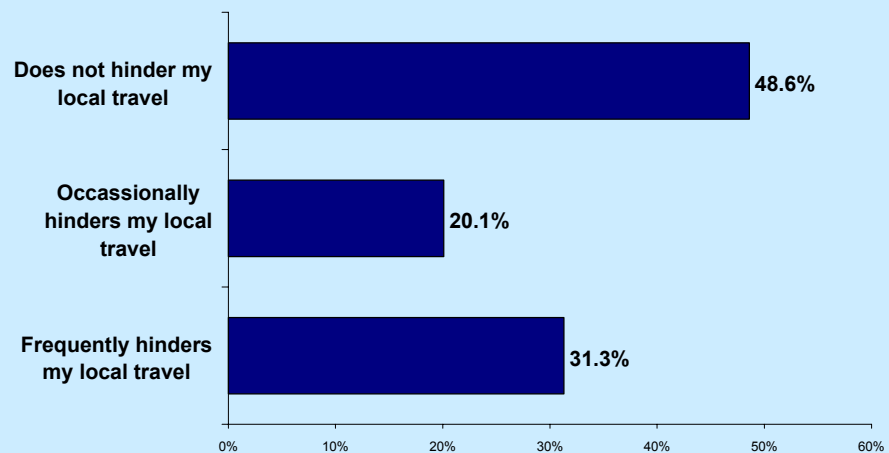
How often do you “plug in” your vehicle?

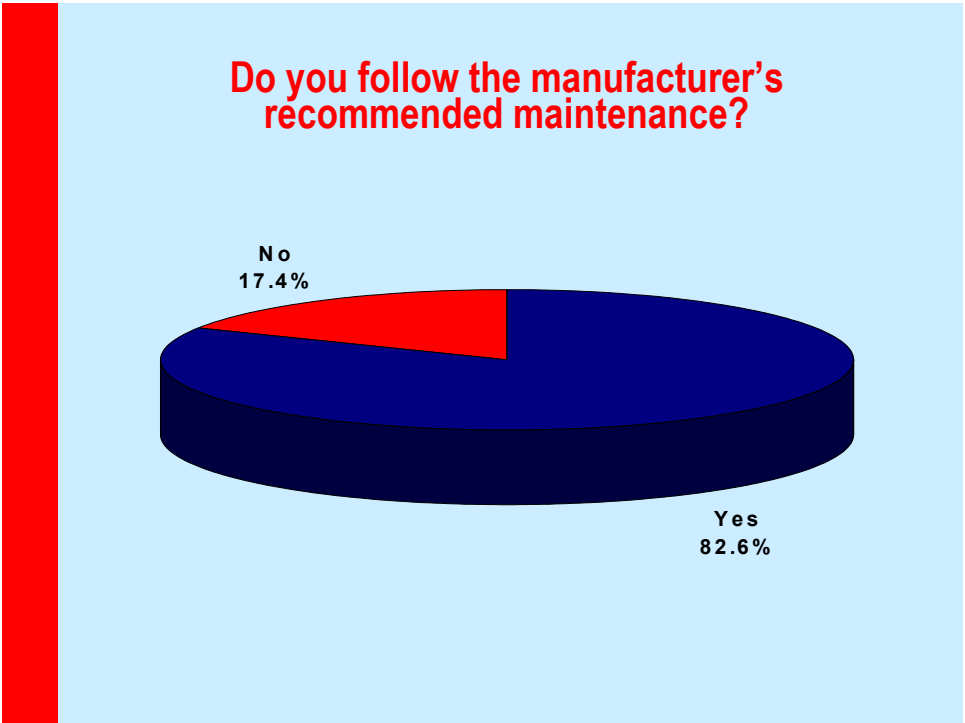
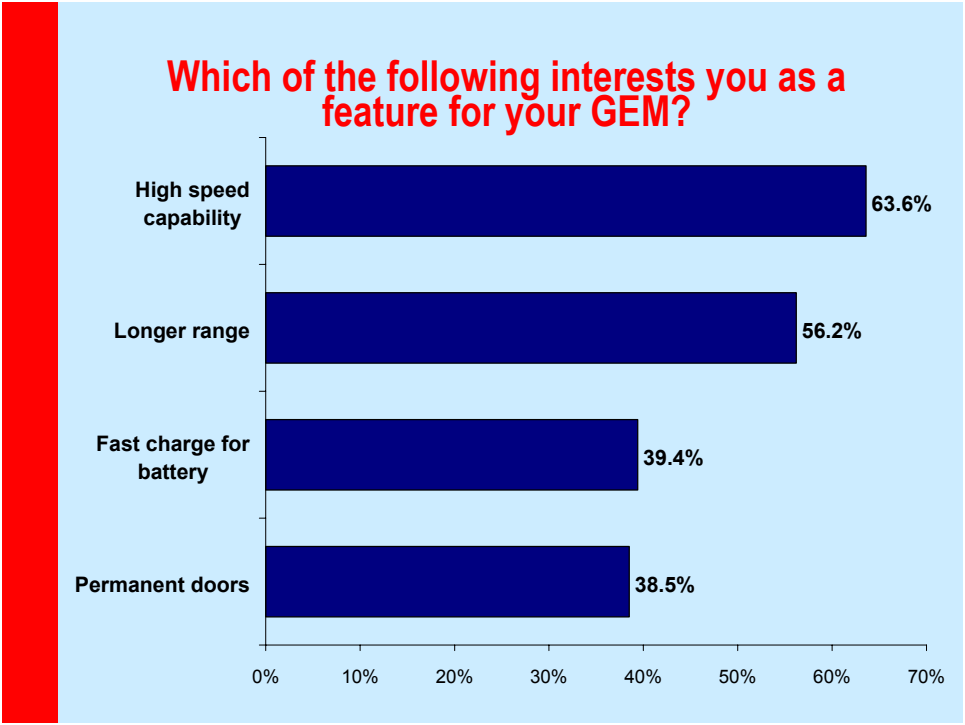


Would you use your GEM more if there were places for you to “plug in” at your destination?

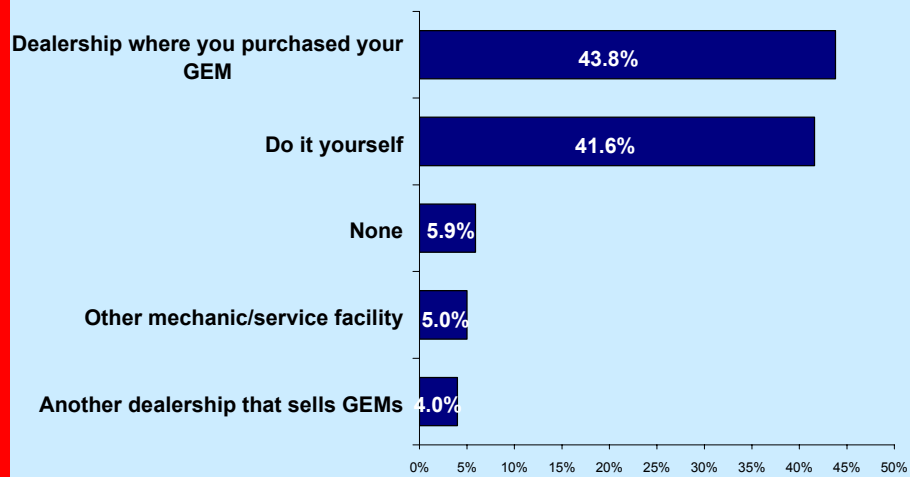


Does the speed limit of 35mph affect your local travel needs?

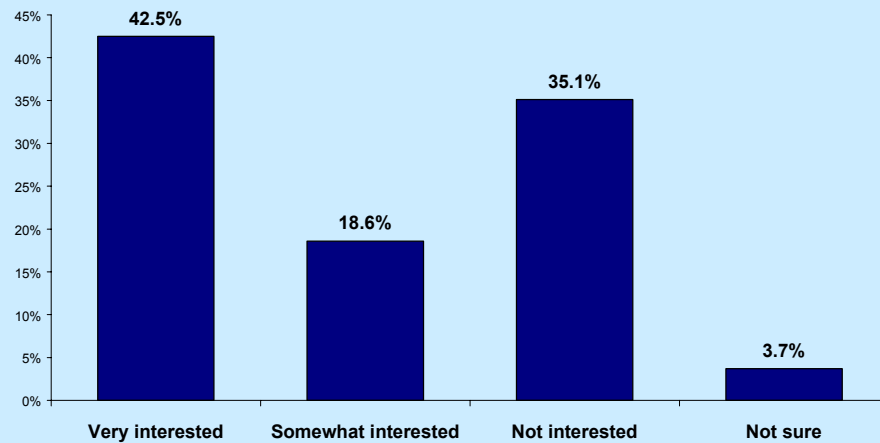




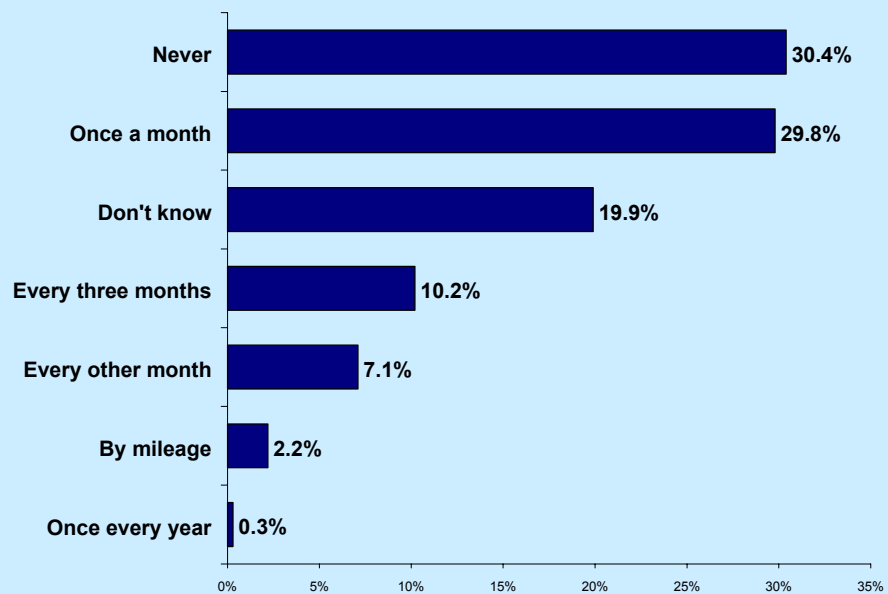
GEM service and maintenance...



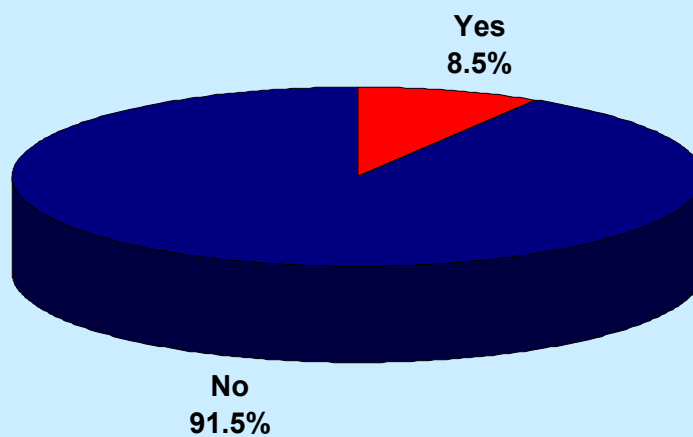
Would you be interested in a mobile service provided at your home or business?



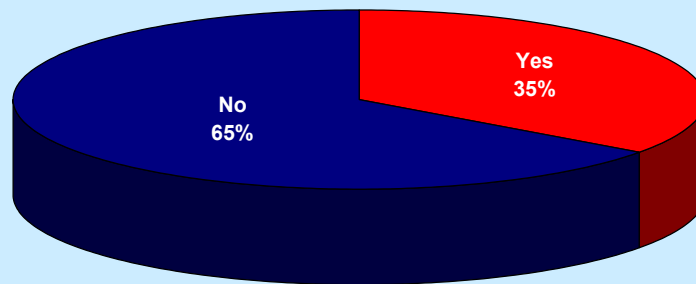
How often do you add water?



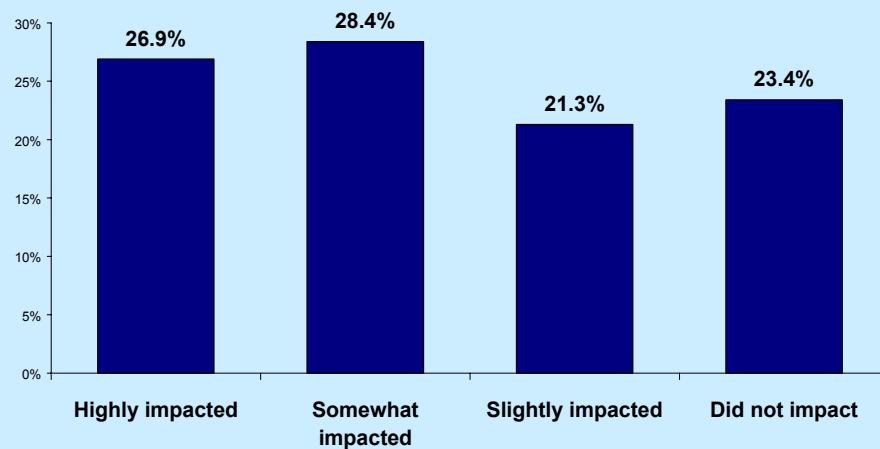
Have you had any repairs or problems with your GEM?



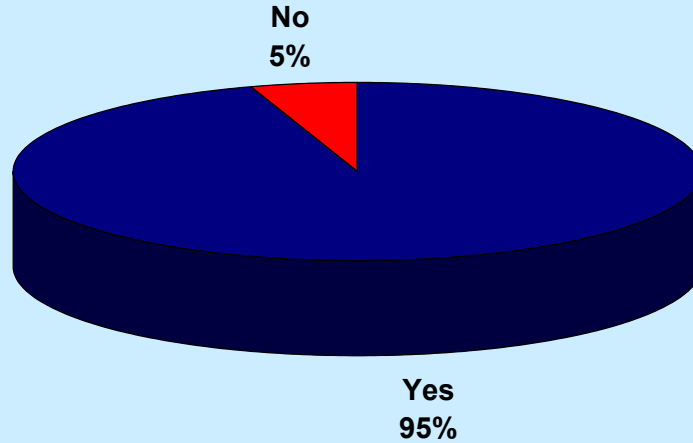
After your warranty expires would you be interested in an extended warranty?



Did the environmental impact of electric vehicles influence your decision to purchase a GEM?



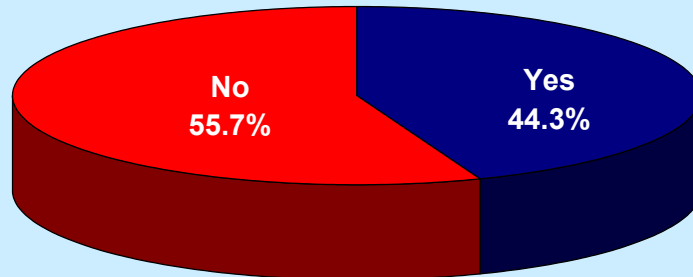
Would you recommend the GEM to a friend?



Why would you recommend the GEM to a friend?

- Attention, its fun, love it
- Convenient & efficient short trips
- Dependable and environmentally friendly.
- Design, utilitarian
- Draws attention
- Easy to drive
- Economical, fun,
- Efficient, fun
- Enjoy it
- Environmental impacts, efficient
- Excellent features
- Fast transportation for quick trips
- Fun, clean, quiet
- Good car, fun to drive
- Good for community
- Great alternative, convenient.
- Like the car
- Looks cool
- Love it
- Nice alternative way to get around
- Nice little car
- Nice, comfortable, easy to park, cost
- Quality car
- Reduce pollution and tax credit
- Reliable, easy to use, convenient
- Speed, uniqueness
- Style
- Tax credit and alternative mode of transportation.
- Way to go with the high price of gas
- Well engineered and no problems.

Potential customer testimonials



244 respondents were asked this question

Questions?

[Jump to first page](#) 